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No. II.

FRAME FOR BROCADING.

The Sum of FIVE POUNDS *was presented to Mr. W.* ROOKE, 30 *Union Street, Hope Town, Bethnal Green, for his Frame for Brocading; a Model of which has been placed in the Society's Repository.*

THIS improvement saves all the waste silk, using none but what is actually employed to give the figure; and this is not all the benefit, for, in the old method, the ground, particularly when a light one, is injured by the colours which have given the figures partly appearing through; whereas, by this contrivance, the ground is left quite pure, there being none of the pattern colours in it. This brightness and purity of figures and ground is, indeed, sometimes at present obtained by throwing the shuttles separately for each figure; but as this machine throws as many shuttles at once as there are figures across the fabric, a great saving of time is effected by its use.

Fig. 9 is a perspective view of the machine, and fig. 10 an end view of the same.

In brocading, the weaver only raises these portions of the warp that are engaged in the figures; but, instead of throwing one shuttle under all, as is commonly practised, or throwing separately as many shuttles as there are figures, Mr. Rooke suspends over the warp the frame *a a*, Plate II. fig. 9, containing twice as many shuttles as there are figures in the breadth. This frame hangs from two parallel bars *b b*, which are attached by pins *q q* to the cross bar *c* as a fulcrum, one of whose centres is *d*. At the other end of these bars are weights *e* (one only being here shewn); these weights a little more than balance the frame *a*, so as to keep it up; the weaver, when he wants it, brings it down to the warp with his hand: there are as many gaps *f f* in this frame *a* as there are figures in the breadth; these openings receive the raised silk whilst the shuttles *g g* are dropped low enough to be thrown under their respective portions. This frame contains a double row of shuttles, one row in front and the other in its back, both sliding in grooves *n n* near the bottom of the frame; the sliding-bar *h h*, moved by its nob *i*, throws the front shuttles to and fro, having wires *j j j* descending to them for that purpose: *k* is the nob that moves the back sliding-bar *l*; it has wires *m* to move the shuttles. Thus, they are thrown like those in the riband loom; and the arrangement of shuttles in two rows allows of two colours being used in each figure; for each figure having its own shuttles, may have its separate colours. In fig. 10, the line *o o* represents a part of the raised warp, and *p p* that which is not raised. The shuttles *g g* must be long enough to reach across the space *f* and enter the opposite groove *n* before quitting the former groove, so the spaces *f f* must be less than the width before them; and as the figures cannot be brocaded wider than the spaces, the blanks on the fabric would be nearly twice as wide as the figure; but any additional width can be given by another colour worked in the tissue; thus, if flowers are brocaded, leaves may be added of any width in the tissue, as before. Whilst one set of figures is being brocaded, there is a bar *r* joined to the frame *a*, which falls into a notch in the batten; this keeps the frame correctly over the figures; but when one set is complete, the frame *a* is moved half way between them, to place the next set of figures mid way, or opposite the spaces in the former row; therefore, the parallel bars *b b* are made to turn on the pins *q q* to allow of that motion; the bar *r* is then raised, and let fall into another notch made in the batten at the proper distance, and when that set is complete, the frame *a* is moved back to its former station for working the third set, and so on.